This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A computer-executed method of retrieving XML data from a database, the method comprising:

creating a primary table structure to hold XML data as a binary large object in an XML column, wherein each row in the primary table comprises a primary key;

creating a primary XML index relating to the primary table structure, where the primary XML index includes a node table;

populating the primary table and the primary XML index, wherein the primary XML index is populated by shredding XML values stored as the binary large object in the XML column of the primary table, and wherein the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier for each entry in each node table;

querying on the primary table, which then uses the XML index by directing the query to a location identified in the XML index node table to satisfy the query, whereby XML data is retrieved from the database; and

retaining the primary table and primary XML index so that subsequent queries execute faster than an initial query.

2. (Canceled)

3. (Previously Presented) The method of claim 1, wherein the node table comprises a B^+ tree structure.

4. (Canceled)

5. (Original) The method of claim 1, wherein the creating a primary table structure comprises creating a structure for XML data and non-XML data.

6. (Original) The method of claim 5, wherein the querying retrieves XML and non-XML data.

7. (Original) The method of claim 1, wherein the method is performed by a database engine.

8. (Original) The method of claim 1, further comprising:

creating a secondary XML index relating to the primary table structure and the primary XML index;

populating the secondary XML index; and

querying on the primary table wherein the query utilizes the primary XML index and the secondary XML index to retrieve the XML data.

9. (Original) The method of claim 1, wherein the querying further comprises utilizing multiple path expressions in the retrieval of the XML data.

10. (Withdrawn) A computer-readable medium having stored thereon a data structure comprising:

an organization of XML data;

an index of the XML data wherein the index is related to the content of the XML data, the index being useful to perform queries on the XML data and is structured as a B^{+}-tree.

11. (Withdrawn) The computer-readable medium of claim 10, wherein the organization of XML data is a column of XML data in a database table.

12. (Withdrawn) The computer-readable medium of claim 11, wherein the index is organized from a cluster of a primary key of the database table and an XML node identifier.

13. (Withdrawn) The computer-readable medium of claim 10, wherein the index preserves the XML data order and establishes a hierarchical relationship within nodes of the B^+-tree.

14. (Withdrawn) A method of communicating with a database application program to create an XML index on an XML data column contained within a database, the method comprising:

invoking at least one statement to create an XML index ;

specifying a database table to which the XML index refers;

allowing options on the XML index to be invoked; and

executing the at least one statement wherein the XML index is created..

15. (Withdrawn) The method of claim 14, wherein invoking at least one statement comprises invoking at least one data definition language statement.

16. (Withdrawn) The method of claim 14, further comprising populating the XML index wherein the XML index obtains values from the XML data column.

17. (Withdrawn) The method of claim 14, wherein the XML index is one of the group of primary and secondary indexes.

18. (Withdrawn) The method of claim 14, wherein the allowing options comprises allowing at least one of the group of padding, filling, sorting, statistics generation, dropping, locking of rows, locking of pages, setting the number of processors and partitioning an XML index.

19. (Currently Amended) A machine-readable medium having instructions therein, executable by a machine to perform a method of retrieving XML data from a database using a query, the method comprising:

creating a primary table structure to hold XML data as a binary large object in an XML column, wherein each row in the primary table comprises a primary key;

creating a primary XML index relating to the primary table structure, where the primary XML index includes a node table;

populating the primary table and the primary XML index, wherein the primary XML index is populated by shredding XML values stored as the binary large object in the XML column of the primary table, and wherein the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier for each entry in each node table;

querying on the primary table, which then uses the XML index by directing the query to a location identified in the XML index node table to satisfy the query, whereby XML data is retrieved from the database; and

retaining the primary table and primary XML index so that subsequent queries execute faster than an initial query.

20. (Canceled)

21. (Original) The machine-readable medium of claim 19, wherein the node table comprises a B^+-tree structure.

22. (Canceled)

23. (Original) The machine-readable medium of claim 19, wherein the creating a primary table structure comprises creating a storage table for XML and non-XML data.

24. (Original) The machine readable medium of claim 19, wherein the querying retrieves XML data and non-XML data.

25. (Currently Amended) A computer system for performing queries on XML data comprising:

an input device for receiving a query;

a processor for executing the query;

at least one organization of XML data;

a software structure providing an XML index of the XML data stored in a primary table as a binary large object, wherein each row in the primary table comprises a primary key, wherein nodes of the XML index are organized as a B+-tree, and wherein the XML index is populated by shredding XML values from the binary large object such that the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier for each entry in each node table; and

an application program which allows the processor to utilize the XML index as a tool for performing the query against the primary table wherein the query is executed and results of the query are returned in response to the query.

26. (Original) The system of claim 25, wherein the application program is database management system software and the processor executes the application program.

27. (Original) The system of claim 25, further comprising an output device wherein the results of the query are provided for examination.

28-30. (Canceled)

31. (Withdrawn) A machine-readable medium having instructions therein representing data definition language statements comprising:

a statement to perform one of the group of create, drop and alter an XML index;

a statement of referencing an XML index name and a target table;

wherein the XML index resides in metadata, is associated with the target table and comprises a set of XML index values structured as nodes in a B+-tree.

32. (Withdrawn) A machine-readable medium having stored thereon a structure for use in a database processor, the structure comprising:

a database table wherein at least one column stores XML data;

at least one binary large object representing at least one value associated with at least one XML column entry;

at least one XML index value corresponding to the at least one binary large object;

wherein the at least one XML index value is used to search the at least one XML column entry.

33. (Withdrawn) The machine-readable medium of claim 32, wherein the at least one XML index value is represented as a node in a B^+-tree.